



Polar Sunrise Worksheet

A Primary Source Activity

Date: _____
Time: _____
Initial: _____

Instructions:

The questions on this worksheet have been divided into 9 topic areas. To find your answers simple refer to the multimedia resources available on the 'Polar Sunrise' activity website at: <http://sunearthday.gsfc.nasa.gov/polarsunrise> .

Topic One: The Polar Year Conference

The "Polar Gateways Arctic Circle Sunrise Conference" was extremely valuable to researchers in many ways.

1. What were some of the benefits of the conference?
2. Why was it important for these researchers to be in the natural environment?
3. Why is it important to learn from other people?

Topic Two: Polar Sunrise

The 'season of the sun' in higher latitude regions like Barrow is quite different from that experienced in the lower latitudes.

4. How is the sun's seasonal variation different in Barrow, Alaska?
5. What is the reason for variation?
6. What are some of those reasons why the 'Polar Sunrise' or 'coming of the Sun' is important to the people of Barrow?

Topic Three: Traditional Knowledge

Traditional knowledge is important to cultures around the world.

7. What is traditional knowledge?
8. Why do scientists incorporate traditional knowledge?
9. List some ways that the people of Barrow use their traditional knowledge?
10. How do the communities of 'traditional knowledge' and 'western science' benefit each other in Barrow?

Topic Four: The Ancient Inupiat People

It is important to understand the history of an area and its people.

11. What is sod?
12. What is meant by tundra?
13. What happened in 1881? Why is that year important to science and Barrow?



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Topic Five: Living in Barrow

Living in an extreme environment can be quite unique and challenging.

14. What is it like to live in Barrow?
15. What are the temperatures like?
16. What are the seasonal changes?
17. How do the routines of those who live in Barrow differ by season?

Topic Six: The Aurora

Auroras have fascinated cultures for centuries!

18. What are some of the beliefs about aurora?
19. Describe the shapes and colors of the aurora.
20. Think about and list any other songs that you know of that are related to nature.

Topic Seven: Examining the Ice?

Scientists can learn a great deal from sea ice.

21. What types of things are found in sea ice?
22. What happens to bacteria in the winter?
23. How does studying Arctic ice help us in our predictions about other planets in our solar system?
24. What can we learn about the sun from the Arctic?

Topic Eight: Arctic Careers in Science

A career in science can lead to incredible and unique experiences.

25. What types of scientists might want to “discover the Arctic”?
26. List some of the ways that inspire and motivate people to make science a career?

Topic Nine: Scale of the Solar System

Scaling the solar system is an interesting and important activity.

27. How can a community benefit from an activity like scaling the solar system?